

In the specification:

Please replace paragraph [0018] with the following amended paragraph:

[0018] **Fig. 1** provides a block diagram of an example communication system 100 in which the teachings of the present invention may well be practiced, in accordance with one example implementation of the present invention. In accordance with the illustrated example implementation of Fig. 1, the communication system 100 includes at least a wireless communication system component 102 comprising one or more user terminal(s) 106, 108 coupled to a wireless communication station 114 through one or more wireless communication links 110, 112, respectively, and one or more antennae 111. In accordance with one example implementation, the wireless communication system component 102 is coupled to one or more wireline network(s) 104 to facilitate communication with wireline subscriber units 116 and 120. In addition, wireless communication system 102 may well be coupled to one or more data network(s) 122 to facilitate delivery of enhanced data services from, e.g., data service provider(s) 124.

Please replace paragraph [0066] with the following amended paragraph:

[0066] In block 806, clustering engine 212 identifies a first spatial signature for the intended target(s) of the pending transmission, and a second spatial signature for the other identified target(s) (i.e., the next user(s)) of the communication channel. In accordance with the teachings of the present invention, the targets may well be individual transceivers or clusters of targets, in which case a first cluster spatial signature and a second cluster spatial signature is developed, as described above. In block 808, multi-point communication agent 210 determines whether there are any undesired user(s) and/or interferors within the coverage

area of the host transceiver. If not, at block 810, beamforming engine 214 calculates weighting values to direct signal energy towards the desired user(s), i.e., the intended target(s) as well as the next user of the communication channel, based, at least in part, on the first and second spatial signatures. If, for example, there are two desired targets with spatial signatures  $a_1$  and  $a_2$ , clustering engine 212 forms a linear superposition of two weights  $w_1$  and  $w_2$ , respectively, calculated as follows:

$$w_1 = PE[a_2' a_2] a_1 \quad (7)$$

$$w_2 = PE[a_1' a_1] a_2$$

where:  $a_1$  and  $a_2$  are  $N \times 1$  vectors;

$N$  denotes the number of antennae 216 associated with the transceiver;

$[a_2' a_2]$  is the outer product of  $a_2$  with itself, i.e., an  $N \times N$  matrix;

$[a_1' a_1]$  is the outer product of  $a_1$  with itself, also an  $N \times N$  matrix; and

$PE$  denotes a pseudo-inverse operation.

Thus, the weights used for transmission are then:

$$(\alpha_1 * w_1) + (\alpha_2 * w_2) \quad (8)$$

where  $\alpha_1$  and  $\alpha_2$  are scalars controlling the intended power to be received by the targets.